#include<iostream>

using namespace std;

int shortest(int ,int);

int cost[10][10],dist[20],i,j,n,k,m,S[20],v,totcost,path[20],p;

main(){

int c;

cout <<"enter no of vertices";

cin >> n;

cout <<"enter no of edges";

cin >>m;

cout <<"\nenter\nEDGE Cost\n";

for(k=1;k<=m;k++){

cin >> i >> j >>c;

cost[i][j]=c; }

for(i=1;i<=n;i++)

for(j=1;j<=n;j++)

if(cost[i][j]==0)

cost[i][j]=31999;

cout <<"enter initial vertex";

cin >>v;

cout << v<<"\n";

shortest(v,n); }

int shortest(int v,int n){

int min;

for(i=1;i<=n;i++){

S[i]=0;

dist[i]=cost[v][i]; }

path[++p]=v;

S[v]=1;

dist[v]=0;

for(i=2;i<=n-1;i++){

k=-1;

min=31999;

for(j=1;j<=n;j++){

if(dist[j]<min && S[j]!=1){

min=dist[j];

k=j; } }

if(cost[v][k]<=dist[k])

p=1;

path[++p]=k;

for(j=1;j<=p;j++)

cout<<path[j];

cout <<"\n";

S[k]=1;

for(j=1;j<=n;j++)

if(cost[k][j]!=31999 && dist[j]>=dist[k]+cost[k][j] && S[j]!=1)

dist[j]=dist[k]+cost[k][j]; } }